

REMARKS

In response to the Office Action mailed August 12, 2003, Applicants amend their application and request reconsideration. It is proposed to cancel claim 3, a claim withdrawn from consideration, in order to comply with the requirement appearing at page 2 of the Official Action. It is not proposed to amend claims 1 and 2.

Claims 1 and 2 were rejected as anticipated by or obvious in view of Araki et al. (U.S. Patent 5,676,998, hereinafter Araki). This rejection is respectfully traversed.

As previously discussed, the first named inventor of this patent application and of the reference are the same. Thus, the Applicants are thoroughly familiar with what is disclosed in the reference.

As pointed out in the previous response, the remarks of which are incorporated here by reference, without again being set out at length, the thin film magnet claimed here is different in structure from the thin film magnet described in Araki. That difference arises from the method of making the magnet claimed here versus the method of making the magnet described in the reference. Thus, the invention is described in the claims partially in terms of the method by which the novel thin film magnet is made. This difference is explained in detail in the brief remarks of the previous Response. By controlling the temperature at the first side of the substrate, on which the thin film magnet is formed, within a temperature range of $\pm 2^{\circ}\text{C}$, the structure includes monocrystalline phases, not polycrystalline phases, separated by amorphous phrases.

In the Office Action mailed August 12, at pages 4 and 5, the Examiner stated that he was not persuaded that the alloy produced according to the reference is different from the alloy produced according to the invention.

“The Examiner is not persuaded. Applicants have not presented any probative evidence to support their position. Applicants state that Araki’s alloy has the structure shown in Figure 3 of the instant application. However, Figure 3 is not a photomicrograph but rather is a schematic drawing of a crystal structure with no disclosed nexus in the application as filed to Araki’s alloy. Thus, in the absence of any evidence, applicant’s arguments are considered to be unsubstantiated allegations.”

Respectfully, Applicants must disagree. The line drawing of Figure 3 is not the only representation of the prior art in the patent application. While the previous response did not

direct attention to Figures 19 and 20 of the patent application, this response does direct the Examiner's attention to those figures which are photographs. Those photographs are not photomicrographs made with an optical microscope. Rather, as described in the patent application at pages 6 and 18, the figures are high-resolution transmission electron microscope (TEM) photographs.

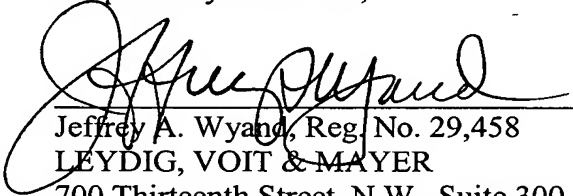
Although not described in extensive detail in the patent application, Figure 19 is such a photograph of a conventional thin film magnet, i.e., the thin film magnet as in the reference. By contrast, Figure 20 is a TEM photograph of a thin film magnet according to the invention. (Applicants also point out that Figure 13 was prepared from a TEM photograph of a structure according to the invention. In view of the Examiner's skepticism regarding line drawings, as opposed to photographs, emphasis is not placed on Figure 13 at the present time. However, the Examiner's attention is directed to the passage of the patent application from page 13, line 17 through page 14, line 17, concerning Figure 13.)

Figures 19 and 20 were annotated, as filed, to point out the amorphous phase separating, in both structures, the $\text{Nd}_2\text{Fe}_{14}\text{B}$ type phase regions. It is apparent by comparing the two figures that in Figure 20, the example of the invention in which the $\text{Nd}_2\text{Fe}_{14}\text{B}$ structure type phases are monocrystalline, that the structure is more uniform in appearance than the prior art structure of Figure 19. The improved uniformity of the layers is attributable to the monocrystallinity of the $\text{Nd}_2\text{Fe}_{14}\text{B}$ type phase regions. This photographic evidence clearly supports and validates the claimed difference between the invention and the prior art illustrated in the line drawings of Figure 2 and Figure 1, respectively. This photographic evidence is not susceptible to artistic license as are line drawings. This evidence proves the invention is distinct from and patentable over Araki.

In re Appln. of ARAKI et al.
Application No. 10/006,679

Reconsideration is requested because the patent application itself has always included unequivocal documentary evidence, through the TEM photographs, of the differences between the invention, as claimed, and the thin film magnet described in the reference. Based upon this irrefutable evidence, claims 1 and 2 should now be allowed.

Respectfully submitted,


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